Docket No.: R2184.0268/P268
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Yasuo Sawada et al.

Application No.: 10/694,939 Confirmation No.: 6142

Filed: October 29, 2003 Art Unit: 2627

For: INFORMATION RECORDING APPARATUS AND INFORMATION RECORDING METHOD Examiner: L. Bibbins

REQUEST FOR RECONSIDERATION AFTER FINAL ACTION UNDER 37 C.F.R. 1.116

MS AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In response to the Office Action dated September 5, 2008, finally rejecting claims 1-10, please reconsider the above-identified U.S. patent application as follows.

Claims 1–10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,751,513 B1 ("Spruit") in view of U.S. Patent No. 6,560,182 B1 ("Nagayama"). The rejection is respectfully traversed.

Claim 1 says that a controller sets the period T1 of the off-pulse to a predetermined value "so that a relationship $T1 \cong 0$ is satisfied when the recording speed exceeds a predetermined threshold speed." Nagayama does not disclose this feature. To the contrary, Nagayama only discloses "the duration of the cooling pulse duration $T(n)_L$ is made smaller than Tmp_L," specifically $T(n)_L$ is limited to the range $0 \leq T(n)_L < Tmp_L$. (Column 5, Lines 22 – 50). Notably, Nagayama does not

teach setting $T(n)_L$ to a predetermined value so that a relationship $T(n)_L \cong 0$ is satisfied <u>when the recording speed exceeds</u> a predetermined threshold speed.

The Office Action contends that: (1) Nagayama teaches preferably setting $T(n)_L$ to 0; (2) Nagayama discloses the linear velocity at which the recording method is optimized is "preferably at least 3.5 m/s, more preferably at least 5.0 m/s, and still more preferably at least 7.0 m/s"; and (3) in Table 3, Nagayama shows $T(n)_L = 0$ at linear velocities of 3.5 m/s, 5.0 m/s and 7.0 m/s.

Applicants respectfully submit that even assuming the Office Action's interpretation of Nagayama is correct, the above findings do not support the conclusion that Nagayama teaches setting the cooling pulse duration to a predetermined value so that a relationship $T(n)_L \cong 0$ is satisfied "when the recording speed exceeds a predetermined threshold speed." With respect to (1), Nagayama teaches preferably setting $T(n)_L$ equal to 0 "since recording waveform can be simplified." (Column 5, Lines 60–61). Notably, Nagayama fails to teach setting $T(n)_L \cong 0$ "when the recording speed exceeds a predetermined threshold speed." Nagayama's disclosure of the linear velocity at which the recording method is optimized also does not teach setting $T(n)_L$ based on a relationship with a recording speed. Rather this disclosure merely purports to state that Nagayama's optical recording method is best operated at certain velocities and certain other conditions. Nagayama does not teach a predetermined threshold speed above which $T(n)_L \cong 0$. With respect to (2) and (3), Table 3 merely shows clock jitter at three discrete linear velocities, namely 3.5 m/s, 5.0 m/s and 7.0 m/s, and does not show a relationship between $T(n)_L$ and a recording speed. As noted in the title of Table 3, the table shows the "[r]elationship of $T(n)_L$ and $T(n)_H$ with clock jitter." Moreover, Nagayama describes Table 3 as showing "a change in clock jitter when $T(n)_L$ and $T(n)_H$ were changed." (Column 9, Lines 25–26).

The ability to determine an optimum setting for the off-pulse period T1 at different recording linear velocities is an important aspect of the present application. FIG. 5 of the present application shows the off-pulse period T1 linearly decreasing as the recording linear velocity

increases. Notably, FIG. 5 shows the off-pulse period T1 in a range of $0 \leq T1 < 0.2Tw$ when the recording linear velocity is higher than 11 m/s and, in particular, "T1 is just equal to zero (t1=0) when the recording linear velocity is equal to 14 m/s (4x)." (Paragraph 46). The need for backward compatibility of various recording speeds using improved recording media means that the optimum setting for the off-pulse period T1 is greater than 0 when the recording linear velocity is less than the predetermined threshold speed of 14 m/s. (Paragraph 12, FIG. 5). A set of parameters, e.g., dTtop, Ttop, Tmp, and dTera, can be stored for use at the time of recording to define a predetermined recording strategy for a particular recording speed. (FIGS. 6A, 6B, 7A, 7B). The stored parameters are used to determine the optimum setting for period T1 through the equation $T1 = Tw - (Tmp + dTera)$. (Paragraphs 61–63). Thus, the controller disclosed in the present application is capable of setting the off-pulse period T1 to a predetermined value so that a relationship $T1 \cong 0$ is satisfied when the recording speed exceeds a predetermined threshold speed.

Claim 7 contains limitations similar to those of claim 1 and is patentable over Nagayama and Spruit for at least the reasons mentioned above. Claims 2–6 and 8–10 depend from claims 1 and 7, respectively, and are patentable at least for the reasons mentioned above. Accordingly, Applicants respectfully request that the rejection be withdrawn and the claims allowed.

In view of the above, Applicants believe the pending application is in condition for allowance.

Dated: December 4, 2008

Respectfully submitted,

By
Mark J. Thronson
Registration No.: 33,082
Cathy Chen
Registration No.: 61,337 (Agent)
DICKSTEIN SHAPIRO LLP
1825 Eye Street, NW
Washington, DC 20006-5403
(202) 420-2200
Attorneys for Applicants